CLAIMS:

1. A purified multimeric polypeptide antigen (MPA) comprising at least one EU250 polypeptide (SEQ ID NO:3) and at least one polypeptide selected from the group consisting of a BU101 polypeptide (SEQ ID NO:2) and a TU104 polypeptide (SEQ ID NO:10).

2. The antigen of claim 1 wherein said antigen further comprises at least one unknown polypeptide.

3. The antigen of claim 1 wherein said antigen has a molecular weight of about 20 to 70 kilodaltons.

4. The antigen of claim 3 wherein said antigen has an isoelectric point of about
(c) less than 8.

5. The antigen of claims 1 or 2 wherein said at least one BU101 polypeptide contains a polymorphism at amino acid position number 53 selected from the group consisting of proline and leucine.

6. The antigen of claims 1 or 2 wherein said at least one EU250 polypeptide and said at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide are covalently linked by disulfide bonds.

7. The antigen of claim 2 wherein said at least one unknown polypeptide has at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

8. An antibody which specifically binds to at least one epitope of said antigen of claims 1 or 2 wherein said epitope is derived from an amino acid sequence having at least 20% identity to an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

9. The antibody of claim 8, wherein said antibody is monoclonal or polyclonal.

10. A method of detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with at least one antibody specific for at least one epitope of said MPA for a time and under conditions sufficient to allow the formation of antigen/antibody complexes; and

(b) detecting said complexes, wherein presence of said complexes indicates presence of said MPA in said test sample.

11. The method of claim 10 wherein said MPA further comprises at least one polypeptide selected from the group consisting of a TU104 polypeptide and a polypeptide having at least 20% identity with an amino acid sequence elected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

12. The method of claims 10 or 11 wherein said at least one antibody is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

13. The method of claims 10 or 11, wherein said at least one antibody is generated against a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

14. A method of detecting the presence of antibody specific for a multimeric polypeptide antigen (MPA), in a test sample suspected of containing said antibody, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with a multimeric polypeptide antigen (MPA) comprising at least one epitope derived from an amino acid sequence or fragment thereof having at least 20% identity to an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof, for a time and under conditions sufficient to allow the formation of antibody/multimeric polypeptide antigen complexes; and

(b) detecting said complexes, wherein presence of said complexes indicates presence of said antibody in said test sample.

15. The method of claim 14 wherein said multimeric polypeptide antigen further comprises at least one polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

16. The method of claims 14 or 15 wherein said MPA of step (a) is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

17. The method of claims 14 or 15, wherein said MPA of step (a) is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one

polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

18. The method of claims 14 or 15, wherein said multimeric polypeptide antigen is attached to a solid phase.

19. A method of detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with at least one antibody specific for at least one epitope of said MPA for a time and under conditions sufficient to allow the formation of MPA/antibody complexes;

(b) adding a conjugate to said resulting MPA/antibody complexes for a time and under conditions sufficient to allow said conjugate to bind to said bound antigen, wherein said conjugate comprises an antibody attached to a signal generating compound capable of generating a detectable signal; and

(c) detecting the presence of said MPA which may be present in said test sample by detecting the signal generated by said signal generating compound.

20. The method of claim 19 wherein said multimeric peptide antigen further comprises at least one polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

21. The method of claims 19 or 20 wherein said antibody of step (a) is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence

encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

22. The method of claims 19 or 20, wherein said at least one epitope of step (a) is derived from a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

23. A method of detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with at least one antibody specific for at least one epitope of said MPA for a time and under conditions sufficient to allow the formation of MPA/antibody complexes;
(b) adding a conjugate to said resulting MPA/antibody complexes for a time and under conditions sufficient to allow said conjugate to bind to said bound antigen, wherein said conjugate comprises a steroid or antibody, attached to a signal generating compound capable of generating a detectable signal; and
(c) detecting the presence of said MPA which may be present in said test sample by detecting the signal generated by said signal generating compound.

24. The method of claim 23 wherein said multimeric peptide antigen further comprises at least one polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof

25. The method of claims 23 or 24 wherein said steroid is selected from the group consisting of progesterone, aldosterone, androstenedione, corticosterone, cortisol, dehydroepiandrosterone, dihydrotestosterone, estradiol, estriol, estrone, hydroxyprogesterone, and testosterone.

26. The method of claims 23 or 24 wherein said antibody of step (a) is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

27. A method of detecting the presence of antibody specific for a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said antibody, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with at least one MPA epitope derived from an amino acid sequence or fragment thereof having at least 20% identity to an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof, for a time and under conditions sufficient to allow the formation of MPA/antibody complexes;

(b) adding a conjugate to said resulting MPA/antibody complexes for a time and under conditions sufficient to allow said conjugate to bind to said bound antibody, wherein said conjugate comprises 1) an antibody, which binds with said antibody in said test sample, attached to 2) a signal generating compound capable of generating a detectable signal; and

(c) detecting the presence of said antibody which may be present in said test sample by detecting the signal generated by said signal generating compound.

28. The method of claim 27 wherein said multimeric polypeptide antigen further comprises at least one polypeptide having at least 20% identity with an amino acid sequence elected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

29. The method of claims 27 or 28 wherein said at least one MPA epitope of step (a) is derived from a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

30. The method of claims 27 or 28, wherein said at least one epitope of step (a) is derived from a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

31. An assay kit for determining the presence of antibody specific for a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said antibody, said assay kit comprising a container containing a MPA, wherein said MPA comprises an epitope having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

32. The assay kit of claim 31, wherein said antigen in said container is attached to a solid phase.

33. The assay kit of claim 31, wherein said assay kit further comprises at least one member selected from the group consisting of a reducing agent and a detergent.

34. An assay kit for determining the presence of a multimeric polypeptide antigen (MPA), in a test sample suspected of containing said antigen, comprising a container containing an antibody which specifically binds to a MPA comprising at least one epitope having an amino acid sequence having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

35. The assay kit of claim 34, wherein said assay kit further comprises at least one member selected from the group consisting of a reducing agent and a detergent.

36. The assay kit of claim 34, wherein said antibody is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

37. The assay kit of claim 34, wherein said at least one antibody is generated against a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

38. A method for producing antibodies which specifically bind to a multimeric polypeptide antigen (MPA), comprising administering to an individual an isolated immunogenic polypeptide or fragment thereof in an amount sufficient to elicit an immune response, wherein said immunogenic polypeptide or fragment thereof comprises at least one MPA epitope having at least 20% identity to an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

39. A composition of matter comprising a multimeric polypeptide antigen, wherein said antigen comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

40. ~~The composition of matter of claim 39 wherein said antigen further~~ comprises at least one polypeptide ~~having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2,~~ SEQ ID NO:10, and fragments thereof.

41. The composition of matter of claims 39 or 40 wherein composition further comprises at least one antibody, bound to said multimeric polypeptide antigen, wherein said antibody is specific to at least one polypeptide selected from the group consisting of a EU250 polypeptide, a BU101 polypeptide, a TU104 polypeptide, a polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

42. The composition of matter of claim 41 wherein two antibodies are present and each binds to a separate polypeptide having an amino acid sequence having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

43. The composition of matter of claim 42 wherein each of said two antibodies binds to a EU250 polypeptide or a fragment thereof.

44. The composition of matter of claim 42 wherein each of said two antibodies binds to a polypeptide selected from the group consisting of a BU101 polypeptide, a TU104 polypeptide, and fragments thereof.

45. The composition of matter of claim 42 wherein one of said two antibodies

binds to a EU250 polypeptide or a fragment thereof and the other of said two antibodies binds to a polypeptide selected from the group consisting of a BU101 polypeptide, a TU104 polypeptide, and fragments thereof.

46. The composition of matter of claim 42 wherein one of said two antibodies binds to a EU250 polypeptide or fragment thereof and the other of said two antibodies binds to a polypeptide having an amino acid sequence having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

47. The composition of matter of claim 42 wherein one of said two antibodies binds to a polypeptide selected from the group consisting of a BU101 polypeptide, a TU104 polypeptide, and fragments thereof, and the other of said two antibodies binds to a polypeptide having an amino acid sequence having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

48. A method of detecting uterine cancer in a patient suspected of having uterine cancer comprising the steps of:

(a) administering to said patient a labelled antibody specific to a multimeric protein antigen (MPA), wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide; and

(b) localizing presence of said label, presence of said label indicating presence of MPA and uterine cancer in said patient.

49. The method of claim 48, wherein said MPA further comprises at least one polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

50. The method of claims 48 or 49, wherein said antibody of step (a) is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

51. The method of claims 48 or 49, wherein said antibody of step (a) is generated against a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polyeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

52. A method of treating breast cancer in a patient comprising administering to said patient an antibody specific to a multimeric polypeptide antigen (MPA), said MPA comprising at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

53. The method of claim 52 wherein said multimeric polypeptide antigen further comprises at least one polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

54. The method of claims 52 or 53 wherein said antibody is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

55. The method of claims 52 or 53, wherein said antibody is generated against a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

56. A method of diagnosing uterine cancer in a patient suspecting of having uterine cancer comprising the steps of:

a) preparing a tissue section or cell culture derived from a tumor excised from said patient;

b) exposing said tissue section or cell culture to an antibody specific for at least one polypeptide of a multimeric polypeptide antigen (MPA) for a time and under conditions sufficient to allow formation of antigen/antibody complexes, said polypeptide selected from the group consisting of: a EU250 polypeptide, a BU101 polypeptide, a TU104 polypeptide, a polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:10, and fragments thereof;

c) localizing presence of said complexes in said tissue section or cell culture, presence of said complexes indicating presence of MPA and uterine cancer in said patient.

57. The method of claim 56 wherein said antibody is generated against a MPA, wherein said MPA is produced by a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

58. The method of claim 56, wherein said antibody is generated against a MPA, wherein said MPA is produced by a host cell comprising two vectors wherein one of said vectors comprises a construct comprising at least one nucleotide sequence encoding at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence encoding at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

59. A method of diagnosing uterine cancer in a patient suspected of having uterine cancer comprising the steps of detecting the presence or absence of at least one polypeptide of a multimeric polypeptide antigen (MPA), said polypeptide selected from the group consisting of a EU250 polypeptide, a BU101 polypeptide, a TU104 polypeptide and a polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof, in a biological sample from said patient, presence of said at least one polypeptide indicating presence of MPA and uterine cancer in said patient.

60. The method of claim 59, wherein said biological sample is selected from the group consisting of tissue, urine, bone marrow and blood.

61. A method of diagnosing uterine cancer in a patient suspected of having uterine cancer comprising the steps of detecting the presence or absence of extracellular BU101 in said patient, presence of extracellular BU101 indicating breast cancer in said patient and transport of BU101 outside cells via EU250 in a multimeric polypeptide antigen (MPA), said MPA comprising at least one EU250 polypeptide and at least one BU101 polypeptide.

62. The method of claim 61 wherein said multimeric polypeptide antigen further comprises at least one polypeptide selected from the group consisting of a TU104 polypeptide and a polypeptide having at least 20% identity with an amino acid sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:2, SEQ ID NO:10, and fragments thereof.

63. A method of detecting uterine cancer in a patient suspected of having uterine cancer comprising the steps of:

(a) obtaining a biological sample from said patient;

(b) measuring the amount of free EU250 polypeptide in said biological sample;

(c) measuring the amount of EU250 polypeptide, present in said biological sample, complexed to at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide;

(d) comparing the ratio of free EU250 polypeptide to complexed EU250 polypeptide, a ratio higher than 1 indicating presence of uterine cancer in said patient.

64. A method of detecting uterine cancer in a patient suspecting of having uterine cancer comprising the steps of:

(a) obtaining a biological sample from said patient;

(b) measuring the amount of a free polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide in said biological sample;

(c) measuring the amount of a polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, present in said biological sample, wherein said polypeptide is the same as said free polypeptide of step (b), complexed to EU250 polypeptide;

(d) comparing the ratio of said free polypeptide to complexed polypeptide, a ratio higher than 1 indicating presence of uterine cancer in said patient.

65. A method for enhancing recognition of MPA, in an immunoassay for MPA, comprising exposing said MPA to at least one member selected from the group consisting of a reducing agent and a detergent, prior to contacting said MPA with an antibody or chemical compound.

66. The method of claim 65 further comprising the step of exposing said MPA to heat.

67. A method for dissociating MPA comprising exposing said MPA to at least one member selected from the group consisting of a reducing agent and a detergent.

68. The method of claim 67 further comprising the step of exposing said MPA to heat.

69. A diagnostic reagent produced by an MB8 cell or a host cell transfected with a vector comprising a construct comprising at least one nucleotide sequence which encodes at least one EU250 polypeptide and at least one nucleotide sequence which encodes at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

70. A diagnostic reagent produced by a host cell transfected with two vectors wherein one of said two vectors comprises a construct comprising at least one nucleotide sequence which encodes at least one EU250 polypeptide and wherein the other of said two vectors comprises a construct comprising at least one nucleotide sequence which encodes at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide.

71. A method for detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with a labelled antigen selected from the group consisting of a MPA, a polypeptide of MPA, a fragment of MPA and a fragment of a polypeptide of MPA;

(b) contacting said test sample and labelled antigen of step (a) with an anti-MPA antibody for a time and under conditions sufficient to allow for the formation of MPA/anti-MPA complexes; and

(c) detecting the presence of MPA which may be present in said test sample by detecting a signal generated by said labelled antigen.

72. A method for detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with a labelled antibody which binds to MPA for a time and under conditions sufficient for the formation of MPA/labelled antibody complexes;

(b) contacting said complexes of step (a) with an antigen selected from the group consisting of a MPA, a polypeptide of MPA, a fragment of a MPA and a fragment of a polypeptide of a MPA for a time and under conditions sufficient for the formation of antigen/labelled antibody complexes; and

(c) detecting the presence of a signal generated by said labelled antibody, wherein said signal is indicative of the presence of MPA in said test sample.

73. A method for detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with a labelled steroid which binds to MPA for a time and under conditions sufficient for the formation of MPA/labelled steroid complexes;

(b) contacting said MPA/labelled steroid complexes of step (a) with an antigen selected from the group consisting of a MPA, a polypeptide of a MPA, a fragment of a MPA, and a fragment of a polypeptide of a MPA, for a time and under conditions sufficient to allow for the formation of antigen/labelled steroid complexes;

(c) detecting the presence of MPA which may be present in said test sample by detecting a signal generated by said labelled steroid.

74. A method for detecting the presence of a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said MPA, wherein said MPA comprises at least one EU250 polypeptide and at least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with a steroid for a time and under conditions sufficient to allow for the formation of MPA/steroid complexes;

(b) adding a conjugate to said resulting MPA/steroid complexes for a time and under conditions sufficient to allow said conjugate to bind to said bound MPA, wherein said conjugate comprises an antibody attached to a signal generating compound capable of generating a detectable signal; and

(c) detecting the presence of said MPA which may be present in said test sample by detecting the signal generated by said signal generating compound.

75. The method of claims 10, 19, 23, 71 or 74 wherein said test sample is exposed to at least one member selected from the group consisting of a reducing agent and a detergent, prior to contacting said sample with an antibody or a chemical compound.

76. A method for detecting the presence of antibody specific for a multimeric

polypeptide antigen (MPA) in a test sample suspected of containing said antibody, said method comprising the steps of:

(a) contacting said test sample with an anti-antibody for a time and under conditions sufficient to allow for the formation of antibody/anti-antibody complexes;

(b) adding a conjugate to said resulting antibody/anti-antibody for a time and under conditions sufficient to allow said conjugate to bind to said bound antibody, wherein said conjugate comprises MPA attached to a signal generating compound capable of generating a detectable signal; and

(c) detecting the presence of said antibody which may be present in said test sample by detecting the signal generated by said signal generating compound.

77. A method for detecting the presence of an antibody specific for a MPA in a test sample suspected of containing said antibody, said method comprising the steps of:

(a) contacting said test sample with a labelled antigen selected from the group consisting of a MPA, a polypeptide of a MPA, a fragment of a MPA, and a fragment of a polypeptide of a MPA, for a time and under conditions sufficient to allow for the formation of antibody/labelled antigen complexes;

(b) contacting said resulting complexes of step (a) with an antibody which binds to MPA, for a time and under conditions sufficient to allow unbound, labelled antigen to bind to said antibody which binds to MPA; and

(c) detecting the presence of said antibody which may be present in said test sample by detecting the signal generated by said labelled antigen .

78. A method of detecting the presence of an antibody specific for a multimeric polypeptide antigen (MPA) in a test sample suspected of containing said antibody, wherein said MPA comprises at least one EU250 polypeptide and at

least one polypeptide selected from the group consisting of a BU101 polypeptide and a TU104 polypeptide, said method comprising the steps of:

(a) contacting said test sample with a MPA complexed with a steroid, for a time and under conditions sufficient to allow for formation of antibody/MPA/steroid complexes;

(b) adding a conjugate to said resulting antibody/MPA/steroid complexes for a time and under conditions sufficient to allow said conjugate to bind to bound antibody, wherein said conjugate comprises an antibody, reactive with said antibody in said test sample, attached to a signal generating compound capable of generating a detectable signal; and

(c) detecting the presence of said antibody which may be present in said test sample by detecting the signal generated by said signal generating compound.